AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently Amended) A wireless station that communicates with at least one other wireless station in a local area network (LAN), comprising:

a media access control (MAC) device that controls transitions between an active mode and a low power mode; [[and]]

a radio frequency (RF) transceiver that communicates with said MAC device and that, after said transition to said active mode, transmits data during a predetermined time slot that is assigned to said wireless LAN station and that is not assigned to other wireless LAN stations in said LAN;

a baseband processor (BBP) that performs radio frequency mixing and that communicates with said MAC device and said RF transceiver and that includes a first phase locked loop (PLL) that generates a first clock signal for said BBP during said active mode; and

a crystal oscillator device that is selectively controlled by said MAC and that outputs a timing signal to said first PLL during said active mode, wherein said RF transceiver includes a second PLL that receives said timing signal from said crystal oscillator during said active mode and that generates a second clock signal for said RF transceiver.

2. (Original) The wireless LAN station of Claim 1 wherein said RF transceiver receives data from other wireless LAN stations in said LAN during said active mode and transitions to said low power mode after receiving said data from said other wireless LAN stations.

3. (Original) The wireless LAN station of Claim 1 wherein said MAC device transitions said wireless LAN station to said active mode prior to a timing beacon and transitions said wireless LAN station to said low power mode prior to a subsequent beacon.

4. (Original) The wireless LAN station of Claim 1 wherein after said transition to said active mode, said MAC device updates network time.

5. (Original) The wireless LAN station of Claim 4 wherein said network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay.

6. (Original) The wireless LAN station of Claim 5 wherein after said fixed delay and a backoff period, said wireless LAN station transmits a beacon if said wireless LAN station has not already received a beacon.

7. (Original) The wireless LAN station of Claim 6 wherein said wireless LAN station updates network time to match a time of said received beacon.

8. (Original) The wireless LAN station of Claim 1 wherein said wireless LAN station transmits at least one frame following a short interframe space during said assigned time slot.

9. (Original) The wireless LAN station of Claim 1 wherein said assigned time slot occurs at least one of after a prior time slot expires, after a wireless LAN station with said prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

10. (Original) The wireless LAN station of Claim 1 wherein a Distributed Coordination Function (DCF) interval is provided after a last one of said wireless LAN stations transmits data and before said wireless LAN stations transition to said low power mode.

11. (Original) The wireless LAN station of Claim 1 further comprising:

a first voltage regulator that regulates supply voltage during said active mode and that is powered down during said low power mode; and

a second voltage regulator that dissipates less power than said first voltage regulator and that regulates supply voltage during said low power mode,

wherein said MAC device selects said first voltage regulator during said active mode and said second voltage regulator during said low power mode.

12. (Cancelled)

13. (Currently Amended) The wireless LAN station of Claim [[12]] 1 further comprising a first oscillator that generates a third clock signal during said low power mode, wherein said first oscillator dissipates less power than said crystal oscillator.

14. (Currently Amended) The wireless LAN station of Claim [[12]] 11 wherein when said MAC device initiates said low power mode, at least one of said first voltage regulator, said RF transceiver, said first PLL, said second PLL and said crystal oscillator is shut down.

15. (Original) The wireless LAN station of Claim 13 wherein said MAC device includes a counter and wherein when said MAC device initiates said low power mode, said second voltage regulator powers said first oscillator and said counter, and wherein when said counter reaches a predetermined count, said MAC device powers up at least two of said crystal oscillator, said first voltage regulator, said RF transceiver, said first PLL and said second PLL.

16. (Original) The wireless LAN station of Claim 1 wherein said wireless LAN station is associated with a host that runs a multiplayer gaming application.

17. (Original) The wireless LAN station of Claim 13 further comprising a processor that communicates with said crystal oscillator and that calibrates said first oscillator using said timing signal from said crystal oscillator.

18. (Currently Amended) The wireless LAN station of Claim [[12]] 11 wherein at least two of said BBP, said first voltage regulator, said second voltage regulator, said RF transceiver, said MAC device, and said first PLL are implemented by a system on chip (SOC).

19. (Original) The wireless LAN station of Claim 1 wherein said wireless LAN station is otherwise compliant with at least one of IEEE section 802.11, 802.11(a), 802.11(b), and 802.11(g).

20. (Original) The wireless LAN station of Claim 1 wherein said LAN is an ad-hoc network.

21. (Original) The wireless LAN station of Claim 1 wherein said wireless LAN stations are mobile stations in an ad-hoc network.

22. (Currently Amended) A wireless local area network (LAN), comprising:

a first wireless LAN station that selectively operates in low power and active modes, that initiates a LAN, and that assigns predetermined time slots for transmitting data to wireless LAN stations joining said LAN; and

a second wireless LAN station that selectively operates said low power and active modes, that communicates with said first wireless LAN station, that receives one of said predetermined time slots from said fist wireless LAN station for transmitting data, and that, after transitioning to said active mode, transmits data during said one of said predetermined time slots,

wherein said one of said predetermined time slots occurs at least one of after a wireless LAN station with a prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

23. (Original) The wireless LAN of Claim 22 wherein said first wireless LAN station includes:

a first media access control (MAC) device that controls transitions between said active mode and said low power mode; and

a first radio frequency (RF) transceiver that communicates with said first MAC device, that transmits data for said first wireless LAN station during one of said predetermined time slots during said active mode, that receives data from said other wireless LAN stations in said LAN during said active mode, and that transitions to said low power mode after receiving said data from said other wireless LAN stations.

24. (Currently Amended) The wireless LAN of Claim 22 wherein said second wireless LAN station includes:

a second media access control (MAC) device that controls transitions between said active mode and said low power mode; and

a second RF transceiver that communicates with said second MAC device, that transmits data for said second wireless LAN station during another of said ~~assigned~~ predetermined time slots during said active mode, that receives data from said other wireless LAN stations in said LAN during said active mode, and that transitions to said low power mode after receiving said data from said other wireless LAN stations.

25. (Original) The wireless LAN of Claim 23 wherein said first MAC device transitions said first wireless LAN station to said active mode prior to a timing beacon.

26. (Original) The wireless LAN of Claim 23 wherein said first MAC device transitions said first wireless LAN station to said low power mode prior to a subsequent beacon.

27. (Original) The wireless LAN of Claim 23 wherein after said transition to said active mode, said first MAC device updates network time.

28. (Original) The wireless LAN of Claim 27 wherein said network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay.

29. (Original) The wireless LAN of Claim 28 wherein after said fixed delay and a backoff period, said first wireless LAN station transmits a beacon if said first wireless LAN station has not already received a beacon.

30. (Original) The wireless LAN of Claim 29 wherein said first wireless LAN station updates network time to match a time of said received beacon.

31. (Currently Amended) The wireless LAN of Claim 23 wherein said first wireless LAN station transmits at least one frame following a short interframe space during said ~~assigned~~ one of said predetermined time slots.

32. (Cancelled)

33. (Original) The wireless LAN of Claim 23 wherein a Distributed Coordination Function (DCF) interval is provided after a last one of said wireless LAN stations transmits data and before said transition to said low power mode.

34. (Original) The wireless LAN of Claim 22 wherein said first and second wireless LAN stations are otherwise compliant with at least one of IEEE section 802.11, 802.11(a), 802.11(b), and 802.11(g).

35. (Original) The wireless LAN of Claim 22 wherein said first and second wireless LAN stations form an ad-hoc network.

36. (Original) The wireless LAN of Claim 22 wherein said first and second wireless LAN stations are mobile stations in an ad-hoc network.

37. (Currently Amended) A wireless station that communicates with at least one other station in a local area network (LAN), comprising:

media access control (MAC) means for controlling transitions between an active mode and a low power mode; [[and]]

radio frequency (RF) transceiver means that communicates with said MAC means for transmitting data after said transition to said active mode during a predetermined time slot that is assigned to said wireless LAN station and that is not assigned to other wireless LAN stations in said LAN;

baseband processing (BBP) means for performing radio frequency mixing and that communicates with said MAC means and said RF transceiver means;

first phase locked loop (PLL) means for generating a first clock signal for said BPP means during said active mode; and

crystal oscillating means for generating a timing signal that is output to said first PLL means during said active mode, wherein said crystal oscillating means is selectively controlled by said MAC means,

wherein said RF transceiver means communicates with said BBP means and includes second PLL means for receiving said timing signal from said crystal

oscillating means during said active mode and for generating a second clock signal for said RF transceiver means.

38. (Original) The wireless LAN station of Claim 37 wherein said RF transceiver means receives data from said other wireless LAN stations in said LAN during said active mode and transitions to said low power mode after receiving said data from said other wireless LAN stations.

39. (Original) The wireless LAN station of Claim 37 wherein said MAC means transitions said wireless LAN station to said active mode prior to a timing beacon and transitions said wireless LAN station to said low power mode prior to a subsequent beacon.

40. (Original) The wireless LAN station of Claim 37 wherein after said transition to said active mode, said MAC means updates network time.

41. (Original) The wireless LAN station of Claim 40 wherein said network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay.

42. (Original) The wireless station of Claim 41 wherein after said fixed delay and a backoff period, said wireless LAN station transmits a beacon if said wireless LAN station has not already received a beacon.

43. (Original) The wireless LAN station of Claim 42 wherein said wireless LAN station updates network time to match a time of said received beacon.

44. (Original) The wireless LAN station of Claim 37 wherein said wireless LAN station transmits at least one frame following a short interframe space during said assigned time slot.

45. (Original) The wireless LAN station of Claim 37 wherein said assigned time slot occurs at least one of after a prior time slot expires, after a wireless LAN station with said prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

46. (Original) The wireless LAN station of Claim 37 wherein a Distributed Coordination Function (DCF) interval is provided after a last one of said wireless LAN stations transmits data and before said wireless LAN stations transition to said low power mode.

47. (Original) The wireless LAN station of Claim 37 further comprising:

first voltage regulating means for regulating supply voltage during said active mode and for powering down during said low power mode; and

second voltage regulating means, which dissipates less power than said first voltage regulating means, for regulating supply voltage during said low power mode,

wherein said MAC means selects said first voltage regulating means during said active mode and said second voltage regulating means during said low power mode.

48. (Cancelled)

49. (Currently Amended) The wireless LAN station of Claim [[48]] 37 further comprising first oscillating means for generating a third clock signal during said low power mode, wherein said first oscillating means dissipates less power than said crystal oscillating means.

50. (Currently Amended) The wireless LAN station of Claim [[48]] 47 wherein when said MAC initiates said low power mode, at least one of said first voltage regulating means, said RF transceiver means, said first PLL means, said second PLL means and said crystal oscillating means is shut down.

51. (Original) The wireless LAN station of Claim 49 wherein said MAC means includes counting means for counting and wherein when said MAC means initiates said low power mode, said second voltage regulating means powers said first oscillating means and said counting means, and wherein when said counting means

reaches a predetermined count, said MAC means powers up at least two of said crystal oscillating means, said first voltage regulating means, said RF transceiver means, said first PLL means and said second PLL means.

52. (Original) The wireless LAN station of Claim 37 wherein said wireless LAN station is associated with a host that runs a multiplayer gaming application.

53. (Original) The wireless LAN station of Claim 49 further comprising baseband processing (BBP) means for calibrating said first oscillating means using said timing signal from said crystal oscillating means.

54. (Currently Amended) The wireless LAN station of Claim [[48]] 47 wherein at least two of said BBP means, said first voltage regulating means, said second voltage regulating means, said RF transceiver means, said MAC means, and said first PLL means are implemented by a system on chip (SOC).

55. (Original) The wireless LAN station of Claim 37 wherein said wireless LAN stations are otherwise compliant with at least one of IEEE section 802.11, 802.11(a), 802.11(b), and 802.11(g).

56. (Original) The wireless LAN station of Claim 37 wherein said LAN is an ad-hoc network.

57. (Original) The wireless LAN station of Claim 37 wherein said wireless LAN stations are mobile stations in an ad-hoc network.

58. (Currently Amended) A wireless local area network (LAN), comprising:

first wireless means for selectively operating in low power and active modes, for initiating a LAN and for assigning predetermined time slots for transmitting data during said active mode; and

second wireless means for communicating with said first wireless means, for receiving one of said predetermined time slots from said first wireless means for transmitting data and for transmitting data during said one of said predetermined time slots,

wherein one of said predetermined time slots occurs at least one of after a wireless LAN station with a prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

59. (Original) The wireless LAN of Claim 58 wherein said first wireless means includes:

first media access control (MAC) means that controls transitions between said active mode and said low power mode; and

first radio frequency (RF) transceiver means for communicating with said first MAC means, for transmitting data during one of said predetermined time slots during said active mode, for receiving data from said other wireless means in said LAN during said active mode, and for transitioning to said low power mode after receiving said data from said other wireless means.

60. (Currently Amended) The wireless LAN of Claim 58 wherein said second wireless means includes:

second media access control (MAC) means for controlling transitions between said active mode and said low power mode; and

second RF transceiver means for communicating with said second MAC means, for transmitting data another of said ~~assigned~~ predetermined time slots during said active mode, for receiving data from said other wireless means in said LAN during said active mode, and for transitioning to said low power mode after receiving said data from said other wireless means.

61. (Original) The wireless LAN of Claim 59 wherein said first MAC means transitions said first wireless means to said active mode prior to a timing beacon.

62. (Original) The wireless LAN of Claim 59 wherein said first MAC means transitions said first wireless means to said low power mode prior to a subsequent beacon.

63. (Original) The wireless LAN of Claim 59 wherein after said transition to said active mode, said first MAC means updates network time.

64. (Original) The wireless LAN of Claim 63 wherein said network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay.

65. (Original) The wireless LAN of Claim 64 wherein after said fixed delay and a backoff period, said first wireless means transmits a beacon if said first wireless means has not already received a beacon.

66. (Original) The wireless LAN of Claim 65 wherein said first wireless means updates network time to match a time of said received beacon.

67. (Currently Amended) The wireless LAN of Claim 59 wherein said first wireless means transmits at least one frame following a short interframe space during said ~~assigned time~~ one of said predetermined slots.

68. (Cancelled)

69. (Original) The wireless LAN of Claim 59 wherein a Distributed Coordination Function (DCF) interval is provided after a last one of said wireless means transmits data and before said transition to said low power mode.

70. (Original) The wireless LAN of Claim 58 wherein said first and second wireless means are otherwise compliant with at least one of IEEE section 802.11, 802.11(a), 802.11(b), and 802.11(g).

71. (Original) The wireless LAN of Claim 58 wherein said first and second wireless means form an ad-hoc network.

72. (Original) The wireless LAN of Claim 58 wherein said first and second wireless means are mobile stations in an ad-hoc network.

73. (Currently Amended) A method of operating a wireless station that communicates with at least one other wireless station in a local area network (LAN), comprising:

controlling transitions between an active mode and a low power mode; and

transmitting data after said transition to said active mode during a predetermined time slot that is assigned to said wireless LAN station,

wherein said predetermined time slot is not assigned to other wireless LAN stations in said LAN,

wherein said predetermined time slot occurs at least one of after a wireless LAN station with a prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence

number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

74. (Original) The method of Claim 73 further comprising:

receiving data from said at least one other wireless LAN station during said active mode; and

transitioning to said low power mode after receiving said data from other wireless LAN stations in said LAN.

75. (Original) The method of Claim 73 further comprising:

transitioning said wireless LAN station to said active mode prior to a timing beacon; and

transitioning said wireless LAN station to said low power mode prior to a subsequent beacon.

76. (Original) The method of Claim 73 further comprising updating network time after said transition to said active mode.

77. (Original) The method of Claim 76 further comprising setting said network time equal to a prior beacon time plus a beacon interval minus a fixed delay.

78. (Original) The method of Claim 77 further comprising transmitting a beacon if said wireless LAN station has not already received a beacon after said fixed delay and a backoff period.

79. (Original) The method of Claim 78 further comprising updating network time to match a time of said received beacon.

80. (Currently Amended) The method of Claim 73 further comprising transmitting at least one frame following a short interframe space during said ~~assigned~~ predetermined time slot.

81. (Cancelled)

82. (Original) The method of Claim 73 further comprising providing a Distributed Coordination Function (DCF) interval after a last one of said wireless LAN stations transmits data and before said wireless LAN stations transition to said low power mode.

83. (Original) The method of Claim 73 further comprising:

regulating supply voltage during said active mode using a first voltage regulator that is powered down during said low power mode; and

using a second voltage regulator, which dissipates less power than said first voltage regulator, to regulate supply voltage during said low power mode; and

selecting said first voltage regulator during said active mode and said second voltage regulator during said low power mode.

84. (Original) The method of Claim 73 wherein said wireless LAN stations are otherwise compliant with at least one of IEEE section 802.11, 802.11(a), 802.11(b), and 802.11(g).

85. (Original) The method of Claim 73 wherein said LAN is an ad-hoc network.

86. (Original) The method of Claim 73 wherein said wireless LAN stations are mobile stations in an ad-hoc network.

87. (Currently Amended) A method of operating a wireless LAN including first and second wireless stations, comprising:

selectively operating the first wireless station in low power and active modes;

initiating a LAN between the first and second wireless stations;

assigning predetermined time slots for transmitting data to other wireless stations joining said LAN using the first wireless station;

receiving one of said predetermined time slots at the second wireless station for transmitting data; and

transmitting data during said one of said predetermined time slots using the second wireless station,

wherein said assigned time slot occurs at least one of after a wireless LAN station with a prior time slot transmits a null frame, after a wireless LAN station with said prior time slot transmits a frame with a predetermined sequence number, and after a wireless LAN station with said prior time slot transmits a frame with a predetermined duration value.

88. (Original) The method of Claim 87 further comprising transitioning the first wireless station to said active mode prior to a timing beacon.

89. (Original) The method of Claim 87 further comprising transitioning the first wireless station to said low power mode prior to a subsequent beacon.

90. (Original) The method of Claim 87 further comprising updating network time after said transition to said active mode.

91. (Original) The method of claim 90 wherein said network time is set equal to a prior beacon time plus a beacon interval minus a fixed delay.

92. (Original) The method of Claim 91 further comprising transmitting a beacon if said first wireless station has not already received a beacon after said fixed delay and a backoff period.

93. (Original) The method of Claim 92 further comprising updating network time to match a time of said received beacon.

94. (Original) The method of Claim 87 further comprising transmitting at least one frame following a short interframe space during said assigned time slot.

95. (Cancelled)

96. (Original) The method of Claim 87 further comprising providing a Distributed Coordination Function (DCF) interval after a last one of said wireless stations transmits data and before said transition to said low power mode.

97. (Original) The method of Claim 87 wherein the first and second wireless station are compliant with at least one of IEEE section 802.11, 802.11(a), 802.11(b), and 802.11(g).

98. (Original) The method of Claim 87 wherein the first and second wireless stations form an ad-hoc network.

99. (Original) The method of Claim 87 wherein the first and second wireless stations are mobile stations in an ad-hoc network.

100. (Original) The wireless LAN station of Claim 13 wherein said MAC device calibrates said first oscillator using said timing signal from said crystal oscillator.

101. (Original) The wireless LAN station of Claim 49 wherein said MAC means calibrates said first oscillating means using said timing signal from said crystal oscillating means.

102. (Currently Amended) A wireless station that communicates with at least one other wireless station in a local area network (LAN), comprising:

a first device that controls transitions between an active mode and a low power mode; [[and]]

a radio frequency (RF) transceiver that communicates with said first device and that, after said transition to said active mode, transmits data during a predetermined time slot that is assigned to said wireless LAN station and that is not assigned to other wireless LAN stations in said LAN;

a first oscillator that generates a first reference frequency;

a second oscillator that generates a second reference frequency that is lower than said first reference frequency;

a first wireless circuit that communicates with said first oscillator; and

a second wireless circuit that communicates with said second oscillator,

wherein said first device shuts down said first wireless circuit and said first oscillator and operates said second oscillator and said second wireless circuit

during said low power mode, and operates said first oscillator and said first wireless circuit during said active mode.

103. (Currently Amended) The wireless station of Claim 102 further comprising:

~~an oscillator that communicates with said RF transceiver and that generates a first reference frequency and a second reference frequency that is lower than said first reference frequency;~~

a baseband processor (BBP) that communicates with said first and second oscillators and said RF transceiver and that performs RF mixing,

wherein said first device shuts down said BBP and said RF transceiver in said low power mode and transitions from said first frequency to said second frequency when transitioning from said active mode to said low power mode, and operates said BBP and said RF transceiver in said active mode and transitions from said second frequency to said first frequency when transitioning from said low power mode to said active mode.

104. (Previously Presented) The wireless station of Claim 102 further comprising:

a voltage supply that supplies a first voltage level and a second voltage level that is less than said first voltage level; and

a baseband processor (BBP) that communicates with said RF transceiver and that performs RF mixing,

wherein said first device shuts down said BBP and said RF transceiver in said low power mode and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode, and operates said BBP and said RF transceiver in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

105. (Currently Amended) The wireless station of Claim 102 further comprising:

~~a first oscillator that generates a first reference frequency;~~

~~a second oscillator that generates a second reference frequency that is lower than said first frequency;~~

a first voltage supply that supplies a first voltage level to said first oscillator; and

a second voltage supply that supplies a second voltage level that is less than said first voltage level to said second oscillator,

wherein said first device shuts down said first oscillator in said low power mode and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode, and operates said first oscillator in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

106. (Cancelled)

107. (Currently Amended) The wireless station of Claim 102 further comprising:

a voltage supply that supplies a first voltage level and a second voltage level that is less than said first voltage level~~;~~

~~a first wireless circuit; and~~

~~a second wireless circuit~~,

wherein said first device shuts down said first wireless circuit and operates said second wireless circuit in said low power mode and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode, and operates said first wireless circuit in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

108. (Currently Amended) The wireless station of Claim 102 further comprising:

~~a first oscillator that generates a first reference frequency;~~

~~a second oscillator that consumes less power than said first oscillator and that generates a second reference frequency;~~

~~a first voltage supply that supplies a first voltage level to said first oscillator;~~

~~a second voltage supply that supplies a second voltage level that is less than said first voltage level to said second oscillator;~~

~~a first wireless circuit that communicates with said first oscillator; and~~

~~a second wireless circuit that communicates with said second oscillator~~,

wherein said first device shuts down said first wireless circuit and said first oscillator in said low power mode, operates said second wireless circuit and said second oscillator in said low power mode and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode, and operates said first wireless circuit and said first oscillator in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

109. (Currently Amended) A wireless station that communicates with at least one other station in a local area network (LAN), comprising:

first means for controlling transitions between an active mode and a low power mode; [[and]]

radio frequency (RF) ~~transceiver~~ transceiving means ~~that~~ for ~~communicates~~communicating with said first means for transmitting data after said transition to said active mode during a predetermined time slot that is assigned to said wireless LAN station and that is not assigned to other wireless LAN stations in said LAN;

first oscillating means for generating a first reference frequency;

second oscillating means for generating a second reference frequency that is lower than said first reference frequency;

first wireless circuit means for communicating with said first oscillating means; and

second wireless circuit means for communicating with said second oscillating means,

wherein said first means shuts down said first wireless circuit means and said first oscillating means and operates said second oscillating means and said second wireless circuit means during said low power mode and operates said first oscillating means and said first wireless circuit means during said active mode.

110. (Currently Amended) The wireless station of Claim 109 further comprising:

~~oscillating means for generating a first reference frequency and a second reference frequency that is lower than said first reference frequency; and~~

processing means that communicates with said first and second oscillating means and said transceiving means for performing RF mixing,

wherein said first means shuts down said processing means and said transceiving means in said low power mode and transitions from said first frequency to said second frequency when transitioning from said active mode to said low power mode, and operates said processing means and said transceiving means in said active mode and transitions from said second frequency to said first frequency when transitioning from said low power mode to said active mode.

111. (Previously Presented) The wireless station of Claim 109 further comprising:

supply means for supplying a first voltage level and a second voltage level that is lower than said first voltage level;

processing means that communicates with said transceiving means for performing RF mixing,

wherein said first means shuts down said processing means and said transceiving means in said low power mode and transitioning from said first voltage level to said second voltage level when transitions from said active mode to said low power mode, and operates said processing means and said transceiving means in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

112. (Currently Amended) The wireless station of Claim 109 further comprising:

~~first oscillating means for generating a first reference frequency;~~

~~second oscillating means for generating a second reference frequency that is lower than said first reference frequency;~~

first supply means for supplying a first voltage level to said first oscillating means; and

second supply means for supplying a second voltage level that is less than said first voltage level to said second oscillating means,

wherein said first means shuts down said first oscillating means in said low power mode and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode, and operates said first oscillating means in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

113. (Cancelled)

114. (Currently Amended) The wireless station of Claim 109 further comprising:

supply means for supplying a first voltage level and a second voltage level that is lower than said first voltage level;

~~first wireless circuit means for performing a first function; and~~

~~second wireless circuit means for performing a second function~~,

wherein said first means shuts down said first wireless circuit means and operates said second wireless circuit means in said low power mode and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode, and operates said first wireless circuit means in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

115. (Currently Amended) The wireless station of Claim 109 further comprising:

~~first oscillating means for generating a first reference frequency;~~

~~second oscillating means for consuming less power than said first oscillating means and for generating a second reference frequency;~~

first supply means for supplying a first voltage level to said first oscillating means;

second supply means for supplying a second voltage level that is lower than said first voltage level to said second oscillating means~~;~~

~~first wireless circuit means for communicating with said first oscillating means; and~~

~~second wireless circuit means for communicating with said second oscillating means~~,

wherein said first means shuts down said first wireless circuit means and said first oscillating means in said low power mode, operates said second wireless circuit means and said second oscillating means in said low power mode and transitions from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode, and operates said first wireless circuit means and said first oscillating means in said active mode and transitions from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

116. (Previously Presented) The method of claim 73 further comprising:

generating a first reference frequency and a second reference frequency that is lower than said first reference frequency;

transmitting and receiving RF signals using a radio frequency (RF) transceiver;

performing RF mixing using a baseband processor (BBP);

shutting down said BBP and said RF transceiver in said low power mode and transitioning from said first frequency to said second frequency when transitioning from said active mode to said low power mode; and

operating said BBP and said RF transceiver in said active mode and transitioning from said second frequency to said first frequency when transitioning from said low power mode to said active mode.

117. (Previously Presented) The method of Claim 73 further comprising:

supplying a first voltage level and a second voltage level that is lower than said first voltage level;

transmitting and receiving RF signals using a radio frequency (RF) transceiver;

performing RF mixing using a baseband processor (BBP);

shutting down said BBP and said RF transceiver in said low power mode and transitioning from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode; and

operating said BBP and said RF transceiver in said active mode and transitioning from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

118. (Previously Presented) The method of Claim 73 further comprising:

generating a first reference frequency using a first oscillator;

generating a second reference frequency that is lower than said first frequency using a second oscillator;

supplying a first voltage level to said first oscillator;

supplying a second voltage level that is lower than said first voltage level to said second oscillator;

shutting down said first oscillator in said low power mode and transitioning from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode; and

operating said first oscillator in said active mode and transitioning from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

119. (Previously Presented) The method of Claim 73 further comprising:

generating a first reference frequency using a first oscillator for a first wireless circuit;

generating a second reference frequency using a second oscillator that is less than said first reference frequency for a second wireless circuit;

shutting down said first wireless circuit and said first oscillator and operating said second oscillator and said second wireless circuit during said low power mode; and

operating said first oscillator and said first wireless circuit during said active mode.

120. (Previously Presented) The method of Claim 73 further comprising:

supplying a first voltage level and a second voltage level that is lower than said fist voltage level;

shutting down a first wireless circuit and operating a second wireless circuit in said low power mode and transitioning from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode; and

operating said first wireless circuit in said active mode and transitioning from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.

121. (Previously Presented) The method of Claim 73 further comprising:

generating a first reference frequency using a first oscillator;

generating a second reference frequency using a second oscillator that consumes less power than said first oscillator;

supplying a first voltage level to said first oscillator;

supplying a second voltage level that is lower than said first voltage level to said second oscillator;

shutting down a first wireless circuit and said first oscillator in said low power mode, operating a second wireless circuit and said second oscillator in said low power mode and transitioning from said first voltage level to said second voltage level when transitioning from said active mode to said low power mode; and

operating said first wireless circuit and said first oscillator in said active mode and transitioning from said second voltage level to said first voltage level when transitioning from said low power mode to said active mode.